

## Claims

1. A system for the generation of television programmes selected from a plurality of television channels said system including a broadcast data receiver, said receiver provided to receive any or any combination of analogue and /or digital data signals at a series of different frequencies, said signals carrying data which when received and processed by the receiver allows the generation of television programmes which are displayed to a user, said broadcast receiver including a tuner and first and second AGC's which allow the adjustment of first and second gain levels when receiving a signal and characterised in that, when a signal frequency is selected in response to the user selection of a television channel to be generated by the receiver, the receiver tunes to the required frequency, receives the signal and the receiver then adjusts the first and/or second gain levels to determine the appropriate gain levels which provide the optimum signal for that signal frequency with regard to predefined parameters.

2 A system according to claim 1 characterised in that the optimisation and setting of the gain control levels is performed for each new signal frequency selected when a new channel is selected by the receiver user.

3 A system according to claim 1 characterised in that the optimisation process is repeated at regular intervals.

4 A system according to claim 1 characterised in that the setting of the AGC levels is checked continuously.

5 A system according to claim 1 characterised in that the receiver includes storage means in which previously selected settings for particular signal frequencies are stored and which

are referred to when that signal is again selected to be received, with the receiver setting the receiving parameters in accordance with those stored in the storage means and then starts from those settings when subsequently checking to ascertain whether those settings are providing the optimum signal reception at that instant.

6 A system according to claim 5 characterised in that at the time of factory setting of the receiver standard settings may be input into the storage means to provide a starting point for each signal frequency from which the receiver tuner commences when the signal frequency is first chosen in use.

7 A system according to claim 1 characterised in that upon to the first selection of any signal frequency a series of common default settings are referred to by the receiver.

8 A system according to claim 1 characterised in that the signal quality is determined with reference to the demodulator error correcting circuitry in the receiver.

9 A system according to claim 1 characterised in that the signal quality and optimisation process is determined with respect to the Bit Error Rate for the signal frequency.

10 A system according to claim 9 characterised in that the bit error rate is adjusted by altering the first and second values of the amplitude gain values and hence arriving at the AGC value or values which provide the optimal signal quality at a particular signal frequency.

11 A broadcast data receiver, said receiver provided to receive any or any combination of analogue and /or digital data signals, said signals transmitted at different frequencies within a

frequency range, said signals carrying data which when received and processed by the receiver allows the generation of audio and video for television programmes which are displayed to a user via a television, said broadcast receiver including a tuner and first and second AGC's which allow the adjustment of first and second gain levels when receiving a signal and characterised in that when a signal frequency is selected in response to the user selection of a television channel to be generated by the receiver, the receiver tunes to the required frequency, receives the signal and the receiver then checks and, if necessary, adjusts the first and/or second gain levels to determine those appropriate gain levels which provide the optimum signal for that signal frequency at that instant.

12 A receiver according to claim 11 characterised in that the signal quality for each AGC level is measured by demodulator error correcting circuitry in the broadcast data receiver.

13 A receiver according to claim 11 characterised in that the value which is measured is subject to control alterations to the broadcast data receiver.

14 A receiver according to claim 11 characterised in that there are two or more amplitude gain control loop levels and the alterations made to each are based upon that which provides the lowest received signal bit error rate (BER) for each.

15 A receiver according to claim 11 characterised in that receiver implements a two dimensional search in the amplitude gain control range to minimise the BER.

16 A method for receiving a data carrier signal selected from one of a range of signal frequencies, said data, once received, processed and used to generate video and audio for a television

or radio programme by a broadcast data receiver connected to a display screen and speakers, said method comprising receiving a user selection of a particular television channel via the broadcast data receiver, identifying the signal frequency for that channel and tuning the receiver utilising a tuner to receive the frequency signal, and characterised in that upon signal frequency reception adjusting at least first and second amplitude gain control levels and assessing the change in signal quality, said quality determined with respect to predefined parameters, and, upon identifying the optimum signal maintaining those amplitude gain control levels.

17 A method according to claim 16 characterised in that upon selecting signal frequency reference is made to a storage means in which previous amplitude gain control levels for that signal frequency are held and which are utilised as the first settings for the signal frequency reception.

18 A method according to claim 16 characterised in that the method is repeated for every new frequency signal selection.

19 A method according to claim 16 characterised in that the method is repeated continuously while the broadcast data receiver is operational.